



SUSTAINING BIODIVERSITY CONSERVATION IN AND AROUND NYUNGWE NATIONAL PARK (NNP)

**Associate Cooperative Agreement N° Aid-696-La-10-00001 under
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Disclaimer

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LIST OF ABBREVIATIONS

ANICO: Animateur de Conservation

CGIS: Center for GIS

DAI: Development Alternatives Incorporation

FONERWA: Fond National pour l'Environnement au Rwanda

GIS: Geographical Information System

GoR: Government of Rwanda

INECN: Institut National pour l'Environnement et la Conservation de la Nature

ISAR: Institut des Sciences Agronomiques au Rwanda

KCCEM: Kitabi College for Conservation & Environmental Management

LEM: Law Enforcement Monitoring

MINAGRI: Ministry of Agriculture

MINALOC: Ministry of Local Governance

MINECOFIN: Ministry of Finance and Economic Planning

MINICOM: Ministry of Trade and Tourism

MININFRA: Ministry of Infrastructure

MINITERE: Ministry of Lands, Water, Forests and Environment (now MINELA: Ministry of Environment and Lands)

MIST: Management for Information System

NAFA: National Forestry Authority

NNP: Nyungwe National Park

NUR: National University of Rwanda

OCIR : Office pour les Cultures Industrielles au Rwanda (Tea and Coffee)

PES: Payment for Ecosystem Services

PSF: Private Sector Federation

RBM: Ranger Based Monitoring

RDB: Rwanda Development Board

RECO – RWASCO: Rwanda Electricity Company – Rwanda Water & Sanitation Company

REDO: Rural Environment and Development Organization

REMA: Rwanda Environmental Management Authority

RURA: Rwanda Utility Regulation Agency

SULFO: Trade company involved in manufacturing different products including drinking water and soaps

USAID: United States Agency for International Development

WCS: Wildlife Conservation Society

TABLE OF CONTENTS

LIST OF ABBREVIATIONS.....	3
TABLE OF CONTENTS.....	5
A) EXECUTIVE SUMMARY.....	6
1. STRATEGY 1: RDB's Biodiversity and Threats Monitoring Capacity is Strengthened.....	98
2. STRATEGY 2: RDB and Districts' capacity to manage conflict, mitigate threats and manage tourism is strengthened	119
3. STRATEGY 3: Strengthening the knowledge and interest of the Government of Rwanda to develop and Support PES policies.....	1412
4. STRATEGY 4: Develop Payments for Ecosystem Services (PES) schemes	1614
5. STRATEGY 5: Develop Sustainable Alternatives for Resource Use	1745
6. STRATEGY 6: Implement Education and Outreach Program	1846
B) DISCUSSION OF PROJECT RESULTS.....	1917
C) COMPLEMENTARITY WITH OTHER DEVELOPMENT PROGRAMS.....	2019
D) TRAINING.....	2220
E) CROSS-CUTTING ISSUES.....	2422
F) ANNEXES.....	30

A) EXECUTIVE SUMMARY

This report concerns the activities undertaken in the Year 1 (period covered 1 March 2010 – 28 February 2011) of the project “*Sustaining Biodiversity Conservation in and around Nyungwe National Park (NNP)*” implemented by the Wildlife Conservation Society (WCS) and aiming at building the capacity of the Rwanda Development Board (RDB) in charge of the management of Nyungwe National Park. - with the financial support of USAID, and as per the Year 1 Workplan submitted by WCS and approved by USAID. The overriding goal of the project is that Rwanda benefits from the conservation of wildlife and sustainable use of ecosystem services in Nyungwe National Park. The principal objective is to improve the capacity of the Rwanda Development Board (RDB) to sustainably manage the park’s resources and address specific threats (fire, poaching, timber harvesting) to the park and specific species of concern. During the first year of implementation, site and policy activities have been developed with RDB to demonstrably strengthen RDB’s capacity to manage the risks and opportunities in NNP. All the project interventions were designed with the long term goal of “*having a management system that can adapt and adjust interventions to address the most critical threats in a timely manner*” and with the underlying understanding that the principal entity to manage that system is RDB. It is worth reminding ourselves that output areas are based on the analysis of the current threats that the park is facing. Therefore, the project inputs reinforce and sustain the ongoing efforts undertaken by different players, including the Government of Rwanda through RDB and other partners to mitigate the occurrence of particularly direct threat incidences in Nyungwe National Park.

To achieve the objectives of this project, the following strategies were used to guide the overall implementation toward the set targets:

1. Build capacity of Rwanda Development Board (RDB) personnel to monitor NNP biodiversity and threats. The interventions under this strategy helped to strengthen the RDB capacity to assess and monitor threats and wildlife. In this regard, the capacity of RDB, NNP Management has been strengthened through a number of trainings for the Park staff. Also, RBM results have been discussed in different fora, to help better planning of interventions as well as sensitizing district authorities to undertake measures aiming at helping reducing the threats to the Park. At least 30% of the conducted patrols were guided by RBM results compared to none in 2009. 25% of rangers received refresher training in the RBM techniques. The overall goal of the law enforcement and protection activities is to ensure the integrity of the total area of the park. However, RBM/MIST results showed that over the last year a total of 48.4 ha of the park have been affected by illegal activities such as wild fires, snares, tree cutting, cultivation, illegal mining, with fires accounting for 98% of this area. The total area affected by historical fires is estimated at 17% of the park. There was no activities planned in the year 1 aiming at physically improving the condition in these affected areas, however, these have been planned in the second year.
2. Build capacity of RDB and district administrations to understand, manage and resolve conflicts related to the use of natural resources; mitigate threats to biodiversity (including fire prevention, mining, and hunting), and manage tourism in NNP so as to seize opportunities while protecting the environment. With interventions under this strategy, a baseline data on conflict between park and community was gathered and analysed; and also discussed with surrounding districts. During the year one , contacts were established with the UK based International Institute for Sustainable Development (IISD) and discussions on IISD involvement and assisting in the conflict mapping as well as training in conflict mitigation were finalized. IISD involvement in these activities will take place in the year 2 as specified in work plan.

3. Assist the Government of Rwanda, including RDB, the Rwanda Environment Management Authority (REMA), the Ministry of Environment and Lands (MINELA) and other relevant government agencies and Ministries, in designing a legal and regulatory framework for Payments for Ecosystem Services (PES) while building the capacity at local and national levels to access ecosystem service markets and implement revenue sharing policies. The different activities undertaken under this strategy were mainly to increase the knowledge and interest of Government of Rwanda in PES development. However, a Technical Task Force involving various government institutions interested in PES has been set up to steer the development of PES regulatory framework in Rwanda, under the auspices of REMA. All the activities undertaken during year 1 are aimed at raising the awareness demonstrate opportunities linked to PES implementation in Rwanda, as this is a new and innovative approach for conservation in Rwanda. A number of discussions related to PES with key staff from different government agencies (NAFA, REMA, RDB, EWASA has taken place, and this culminated in the establishment of a National PES Technical Task Force.

The supporting objective of the project is:

“Communities and government are able to benefit from the conservation of wildlife and sustainable management and use of ecosystem services in Nyungwe National Park”. This supporting objective is an end in itself, promoting sustainable rural economic growth and development with direct linkages to the “Strengthening the Sustainable Ecotourism in and around NNP” project.

It also supports the principal objective of the project, bolstering RDB’s management capacity and mitigating threats to the park by engaging communities. To this end, WCS initiated, in collaboration with RDB, a series of actions to:

4. Develop PES schemes that provide the incentive to plan the desired land uses by creating markets through which the users of environmental services compensate providers of those services. Actions under this strategy were initiated in order to assist the government and communities to position themselves so as to benefit from payment for ecosystem services. As above mentioned, much effort has been put in raising awareness of various stakeholders about the potential of PES as another avenue for financial of conservation as well as socio-economic and livelihood improvement in the NNP region. In this regards, sensitization workshops for the private sector were organised.
5. Introduce sustainable alternatives to natural resource use and contribute to the conservation of this landscape while improving community livelihoods, including improving energy efficiency, putting in place alternative energy sources and developing new markets for conservation products. In this regard, much effort was deployed to gather baseline information against which to plan interventions for next year. Also discussions with REDO, a local partner with expertise in IES were initiated so as to plan for next year’s interventions.
6. Implement education and outreach (social marketing) initiatives targeted at school students, drop-out youth and other vulnerable groups such as women and minorities to enable them to better understand the value of Nyungwe and encourage them to adopt sustainable behaviour in support of park conservation efforts. In this regard, the bulk of activities were geared toward building an baseline information on conservation education and outreach as well as the level of literacy and numeracy around NNP for school / out of school youth as well as other vulnerable groups.

Information was also gathered to feed into the development of Education / Outreach Strategy and materials.

In overall the great deal of the first year's project activities was aligned with the projects strategies and emphasised on building the capacity of various stakeholders, especially the RDB for effective management of NNP. Much of emphasis was put on gathering the baseline data and information, against which further project's interventions will be built so as to ascertain solid foundation and ensuring sustainability of the project's outcomes. Nevertheless, the achieved results contributed to the increase of the understanding about the park's values and hence the reduction of the threats that it is faced with. We hope that with in depth interventions planned in the second year of the project to induce significantly threats reduction on the NNP.

1. STRATEGY 1: RDB's Biodiversity and Threats Monitoring Capacity is Strengthened

The biodiversity of Nyungwe National Park can only be effectively conserved over the long-term if interventions are constantly evaluated and improved through use of adaptive management techniques. This relies in part on information gathered by means of Ranger Based Monitoring to enforce the law on park protection (Law Enforcement) implemented by ranger patrols teams. The capacity of research and ranger staff involved in the day to day management of Nyungwe National Park needs to be strengthened to ensure that monitoring data is appropriately collected and analyzed. Thus, essential training was provided in order to develop skills in species identification, biological and human activities survey techniques, data collection methods, the use of essential field equipment, as well as data management and analysis. Additionally the training focused on the requisite techniques for biological monitoring and on human activity surveys. At least 30% of conducted patrols were guided by RBM results. 25% of rangers received refresher training in the RBM techniques. The overall goal of the law enforcement and protection activities is to ensure the integrity of the total area of the park. However, RBM/MIST results showed that over the last year a total of 48.4 ha have been affected by illegal activities such as wild fires, snares, tree cutting, cultivation, illegal mining, while fires accounting for 98% of this area. The total area affected by historical fires is estimated at 17% of the park. There was no activities planned in the year 1 aiming at physically improving the condition in these affected areas, however, activities related to assisted regeneration and aiming at improving the physical condition of the affected area have been planned in the second year.

Output 1: Biological Surveying capacity of RDB staff is strengthened

During Year 1 of the project, data for RBM were collected by RDB park rangers every time they went on patrol. Datasheets were distributed to each patrol post on a monthly basis in collaboration with the RDB monitoring agent who also collects the completed datasheets. The data from these sheets is entered and analysed at NNP headquarter level on a monthly basis using MIST and GIS software. *MIST*- GIS was adapted in Rwandan protected areas for data analysis and reporting for day to day management of the park. We assisted the RDB Research and Monitoring Warden in data analysis and updating of the *MIST*-GIS software with a newer version to facilitate easier data analysis and reporting.

NNP staffs that needed to be trained in data collection and RBM techniques were identified and a refresher course organised for those selected 16 (25% of the total number) rangers. These staff are the main actors planning, implementing and reporting on patrol activities within NNP. The course equipped the participants with improved techniques and skills in data collection for threat monitoring in NNP. Refresher training in the use of essential field equipment including GPS, compass, map reading etc was also provided.

With a focus on improved adaptive management, meetings with park staff (especially zonal heads and wardens- about 30 people in all) were organised each quarter to discuss RBM results with all RDB departments at NNP level. The results from RBM for the last three months were presented and discussed with the participants and were used to plan the interventions by different departments (especially Law Enforcement / Protection and Community Conservation Departments) with a joint aim of reducing the threats faced by the NNP.

Furthermore, 2 semestral meetings were organised between park management and district representatives and other partners to discuss the use of RBM results and collaboratively set up strategies to reduce threats within the park. The strategies identified included:

- a. Reinforce community outreach program
- b. Identify illegal forest users and regroup them into cooperatives
- c. Develop information sharing mechanisms on illegal activities between sector leaders, district environmental officers and park authorities, and finally
- d. Local authorities committed to take the lead to fight illegal activities in their respective sectors

These broader stake-holder forums are a valuable way to maintain good communication and understanding and also provide an opportunity to jointly address issue of concern. Key resolutions were identified with representatives from the sectors, and an overall commitment was given by the various districts that they would work hand in hand with park management to reduce the incidence of illegal activities.

An advanced GIS training in Remote Sensing and 3-Dimension Analysis was organised. 10 RDB & WCS staff, attended this training and were equipped with the knowledge, skills and attitude necessary for them to use remote sensing and 3-Dimension Analysis as modern tool in the management of wildlife and park using satellite images and aerial photographs, and other material acquired through remote sensing or scanning.

Output 2: The capacity in law enforcement and threat monitoring and assessment for RDB staff is strengthened

No activity was undertaken in relation to training RDB staff in Law Enforcement as it became clear that this required some further planning procedures and a waiver from USAID. This activity will be planned in Year 2 under the full responsibility of RDB within the framework of the existing collaboration between RDB and the Army and Police.

To further enhance the capabilities of the RDB staff in patrolling and protecting the NNP, a Patrol Post at Cyamudongo Forest has been designed and construction initiated. Construction activities were completed in October 2010. The post was visited by representatives from WCS, RDB and USAID on 24 November 2010 and was handed over a week later to RDB. The post is now in full-use, although a solar system is yet to be installed using some parts provided by RDB (solar panels) and other purchased by WCS and now in transit from the USA (DC fuses, lightning arrestor etc). These materials were eventually purchased from the US after numerous failed attempts to source them through businesses in Rwanda. They are due to arrive in country on May 17th and once cleared through customs will be used to complete the solar system at Cyamudongo post.

The publication of RBM results in district newspapers/newsletters was not possible, as these newsletters were no longer issued by the respective districts due to lack of funding. Nevertheless the RBM results were presented and discussed during the 2 JAF meetings organised at the park level and attended by the district representatives.

Plans to engage with various resource user groups through improved communication and the possible elaboration of communication protocols (such as poachers, miners, bamboo harvesters etc) have progressed slowly. Many of these groups have been approached and we have managed to establish two

new associations of ex-poachers in Kitabi and Muganza. However, protocols for partnership will be developed once these associations will have an approved legal status. In addition, a mining survey was completed, the report will give a good picture of what is going and highlight key players and the extent of community involvement in that activity. JAF meetings have also provided an opportunity for district authorities to pass on more information concerning miners and bamboo harvesting groups, paving the way for more fruitful dialogue in the future.

The toponymy work was initiated but was not completed due to extensive work that is required in terms of surface coverage by the field teams. About 80% was completed. The remaining will be the focus in the year 2 of the project.

Output 3: Capacity to monitor climate is strengthened

A one-day Climate Change Workshop was held at the KCCEM. The workshop content was designed to explain the principal concepts of climate change, and to make it both understandable and relevant in local contexts to an audience of individuals from the principal organizations active in biodiversity conservation in Nyungwe National Park and other protected areas in Rwanda. This workshop was a preliminary initiative to start data the process of Climate Change Data Collection in NNP. However the training for RDB staff in Climate Change data collection analysis and interpretation which was to take place concomitantly with the installation of the automatic weather station on Bigugu for Climate Change data collection was not possible due to delays from the company manufacturing the weather station in completing the order and shipping the unit to Rwanda. WCS Climate Specialist, Dr Anton Seimon has now re-scheduled the shipment, installation and training of RDB staff to Year 2.

2. STRATEGY 2: RDB and Districts' capacity to manage conflict, mitigate threats and manage tourism is strengthened

The communities around NNP are characterized by high population density and high levels of poverty. Communities to various degrees have often made use of the land and other natural resources of NNP to support their livelihoods. Illegal harvesting of these resources creates friction between Park managers who are trying to reduce illegal activities, and the local communities. On the other hand, some costs to living in proximity to NNP, such as crop raiding by wild animals, exacerbate conflict. Faced with a challenge to protect NNP resource in the face of many conservation challenges, the government of Rwanda together with its partners, including USAID, promotes ecotourism as one of means to achieve sustainable conservation of Nyungwe and development of adjacent communities. For the year 1, activities have mainly focused on addressing NNP-based conflict resolution through a participatory conflicts management approach. During the first year, contacts with the UK based International Institute for Sustainable Development (IISD) were established and discussions were finalized related to IISD's involvement and assisting in conflict mapping and training in conflict mitigation for park staff, community liaison agents and local authorities.. IISD's involvement in these activities will take place in the year 2 as per the work-plan.

Output 1: Capacity to understand, manage and resolve conflicts is in place

A desktop review of the conflicts within NNP was undertaken through gathering information on NNP-based conflict with surrounding communities and this also extended to wildlife-human conflicts outside the park. We compiled information on human-park conflict within NNP using Ranger-based Monitoring data collected by RDB rangers from January to October 2010. The results suggested that major threats to biodiversity at this time include poaching and habitat degradation/loss through a number of causes including most importantly, bushfires, mining, firewood collection, bamboo cutting and agriculture /encroachment for crop farming etc.

Workshops with communities were organized at sector level in different areas bordering NNP to gather information on NNP based conflicts. These workshops brought together local authorities such as village leaders, executive secretaries of cells, opinion leaders, heads of local associations / club leaders and churches leaders. In total 72 men and 17 women participated in these meetings. The aim of the meetings was to collect information on NNP-based conflicts and on the attitudes of surrounding communities vis a vis NNP. During these meetings, threats on biodiversity were identified from different sectors bordering NNP

A study tour for resource users was organized to the Akagera and Volcanoes National Parks for 11 representatives of ex-poachers associations, environmental clubs as well as cooperatives of community based tourism initiatives. The aim was to get the different participants exposed to how the local resource users were integrated in the management of those parks.

Lesson learned: Attitudes towards NNP are generally positive, but crop raiding and damage by wild animals is a problem in some areas. No compensation has been paid to communities so this is causing ill feeling towards NNP. The communities have very little income and opportunities to generate income and have requested that the Revenue Sharing Scheme operated by the government, be used to assist communities to find alternative sources of income. The whole topic of revenue sharing is very important and review of the present approach is envisaged for the coming year, so this is a subject to which we will return.

Two associations of ex-poachers in Kitabi and Muganza were established and bringing together 140 members with the support of the local authorities in these areas. These associations were trained in management and leadership and will assist in curbing down the level of poaching through their involvement in the management activities of the park.

During the Year 1 of project, emphasis was put on gathering the basic information on conflict, and it was not possible to have the IISD's expertise in conservation related conflicts management to assist in setting the TTF for conflict management around NNP as well as the delivery of the training in conflict management. However this will be the focus in the year 2.

Output 2: Communities participate in conflict mitigation processes

Mechanisms to re-establish the ANICO system as Community Liaison Agents were devised and the concept as well as their ToRs were discussed with the local authorities at district level. An initial list of 53 ANICO members (1 per each sector bordering NNP) was established. However, with further discussions with partners (especially RDB), it was recommended that the concept of ANICO be further refined, taking into account the past lessons in the analysis of the reasons why this system has not consistently been effective, until it was faded down. This recommended review process is to be undertaken in the year 2 of the project. This concept is to be rethought again properly with RDB guidance, and once established, a training needs assessment will be conducted as well as basic equipment provided.

Output 3: Capacity to manage fire, and monitor mining and resource use impacts are in place

The threat of fires:

Terms of Reference for a Fire Management Plan were developed as a means of overcoming the above challenges. In this regards, the U.S Forest Service (USFS), an authority with a vast amount of fire-fighting and management experience, was contacted and accepted to work in partnership with WCS for the development of a fire management plan for Nyungwe National Park. A USFS team therefore visited Nyungwe in January 2011, to better understand the issues on the ground through discussion and information gathering involving different stakeholders as the basis for drafting a plan and designing training approaches that would support improved fire management in Nyungwe. We currently await initial feedback from this mission, including a framework for the Fire Management Plan itself. Despite this, the USFS has sponsored 3 RDB staff (2 from Nyungwe- the Chief Park Warden and Protection Warden) to attend an international fire-management conference in South Africa in May 2011. WCS is also in the process of developing fire warning signs for erection at in Kitabi and Gisakura as a means of raising awareness of fire risks amongst local communities and those passing through the park.

The threat of poaching:

Apart from the main focus of strengthening RBM monitoring as mentioned above, we gathered information on poaching in Nyungwe from existing literature related to different strategies that have previously been employed as a guide to developing a set of questions that might shed light on the evolution of poaching patterns and current situation. Our aim will be to use these questions to guide an analysis amongst relevant stake-holders..

Trans-boundary joint patrols with Kibira NP in Burundi were unfortunately not organised due to difficulties in planning with the Burundian *Institut National de l'Environnement et la Conservation de la Nature* (INECN) staff whose administrative structure has been affected by various legislative elections that took place in 2011.

The threat of mining:

Mining is also a threat with a long and complex history in Nyungwe. Despite the success of removing all mining activity in the years leading up to the creation of Nyungwe National Park in 2005, limited illegal mining activity persists in some areas, although it has not been clear to what extent and who is involved. For these reasons, a mining chain analysis was conducted based on field visits to areas known to be affected by this activity.

The results of the field visits show that some areas of the park are still being dramatically affected by the mining activities despite effort in law enforcement and sensitization.

Tools to facilitate understanding- vegetation map of NNP:

The vegetation map of NNP was not produced due to the delay in obtaining the aerial photographs which are one of the main elements in developing a vegetation map.. However, a series of aerial photographs were finally obtained from the National Land Centre and these will be used to provide a general remote-sensed vegetation baseline- the basis for a vegetation map. This will be undertaken in the year 2 of the project.

Output 4: Tourism impact monitoring program supports adaptive management the tourism program

WCS together with DAI, as lead organisation in the tourism related activities supporting the management of NNP, initiated discussion aiming at establishing collaboration on tourism impact monitoring program. This year 2011 DAI is planning to hire a consultant to develop tourism monitoring program through “the limit of acceptable changes” framework. WCS will contribute in providing data collected on monthly basis through its long term biodiversity monitoring program. Further discussions are envisaged and aiming at elaborating an appropriate tourism monitoring impact system.

3. STRATEGY 3: Strengthening the knowledge and interest of the Government of Rwanda to develop and Support PES policies

The government of Rwanda can play a critical role in catalysing processes related to compensation/payments for environmental services and has the power to change policies. However, to convert the principles of the ecosystem approach into policies, strategies and action, and to set up and implement PES schemes, capacity building, awareness raising and better coordination and communication between institutions are needed. In addition, designing a PES program requires navigating through a complex regulatory framework created by multiple government agencies responsible for environmental regulations, policies, and programs. Clarifying the relationships between these entities is essential for PES scheme design. Each agency has its own regulatory mission, and none include the design of novel, market-like solutions to environmental problems.

Finding a way through this kind of regulatory framework is essential to reduce the risks for both the agencies and private sectors, reduce transaction costs, and ensure broad participation in any PES program. It is important to develop an institutional framework that will be able to provide effective support services to PES deals.

The establishment of a cross-agency working group on “Payment for Ecosystem Services” that brings together relevant government agencies (RDB, REMA, NAFA, and other key ministries including the Ministry of Environment and Lands (MINELA), Ministry of Infrastructure (MININFRA) and the Ministry of Local Government, Good Governance, Rural Development and Social Affairs (MINALOC) and district authorities) in a multi-sectoral taskforce helps to ensure an effective coordination among key stakeholders, identify areas of synergies and promote the development of coherent policies to address critical issues such as revenue sharing.

The various meetings, field visits and studies that were initiated in the first year constitute a platform on which future PES activities will be based. Considerable interest and support is being expressed amongst various government ministries and partners as is evident through the constitution of a PES Working Group and Task Force.

Output 1: The Government of Rwanda has the knowledge and interest in establishing effective PES policies

Payment for Ecosystem Services (PES) has been proven to be a way to finance the conservation by the 2005 UN-Millennium Ecosystem report. This concept was introduced in Rwanda earlier 2007. In 2008, a

study was conducted on the value of the NNP ecosystem services. This revealed that there is high potential within NNP ecosystems including water, carbon sequestration and biodiversity.

As a means of providing support from PES activities in sustaining biodiversity conservation in and around Nyungwe National Park (NNP), WCS attended and assisted in the World Environment Day/Kwita Izina which was organized at SERENA Hotel. WCS was identified as a key member of the Protected Areas working group, and assisted in leading the discussion on PES as a tool for supporting the green economy in Rwanda. As a means of initiating sensitization of stakeholders on PES, WCS was also invited as a panellist during one of the sessions of the Conservation Forum which takes place every last Thursday of the month to deliver a presentation entitled PES: Challenges and opportunities for implementation in Rwanda.

In order to establish and build on the PES program, a first step is also to map those stakeholders surrounding the NNP. Various communities along with Tea Companies, Water Companies and other commercial enterprises that are currently using directly or indirectly the NNP resources have been visited. This visit was to introduce the idea of PES as well as to try to establish the extent of the Ecosystem Services that are being used by each on a commercial basis.

The exercise of mapping stakeholders in PES covered 5 districts around Nyungwe: Rusizi, Nyamasheke, Karongi, Nyamagabe and Nyaruguru. Other areas were also covered such as Kigali, where different NGO's interested in PES were contacted. Site visits were used as a strategy to explore the role stakeholders are playing in payment for ecosystem service, whether they are beneficiary, provider, or play any other role in the chain. Interviews with managers of different institutions benefiting from ecosystem services around NNP were used to assess their level of understanding of PES.

In addition, a review of different reports and literature was carried out in order to gather additional information concerning key stakeholders so as to sensitize them on PES opportunities. A round table meeting with the owner of the majority of the tea factories established in the vicinity of NNP was conducted to sensitize them about the PES opportunities.

PES Working Group establishment- This is an important structure to drive the highly collaborative PES implementation process. In this context, REMA being a national environmental regulatory agency and RDB were contacted to discuss the PES scheme implementation in and around NNP. WCS was appointed by REMA and RDB to provide technical leadership of PES development and implementation in Rwanda. WCS provided consistent support in consultation with REMA and RDB to develop the implementation mechanisms. A review of opportunities was also discussed and the following were identified:

- The Rwandan government political will to support the PES implementation process;
- The already completed study of Nyungwe Ecosystem Services valuation which was conducted by WCS under GEF/PAB funding;
- The law to establish National Environmental funds (FONERWA) which is under final review;
- A law to establish land use and management which is already in use

These factors were discussed and reviewed by WCS, REMA and RDB in several formal and informal meetings and this resulted in the establishment of a National PES working group to provide leadership and guidance for PES implementation in Rwanda under the coordination of WCS. The working group was also mandated to work closely with regional entities to explore the regional opportunities to speed up the

PES approach. The overall goal of the working group is to advise, guide and provide technical leadership in the development of a national framework for developing and implementing PES.

A draft term of reference for the PES working group was developed and shared with different participants from REMA, RDB and NAFA, for comment and a working group including various government institutions and WCS was established.

Two PES working group meetings were organised to further develop interest and to review the proposed ToR's and elaborate a detailed scope of work. In the latter meeting it was also decided that the working group would be better named as the PES Technical Task Force and will be led by REMA. It should be mentioned that the establishment of the PES TTF is result of several meetings that were organised separately with key government agencies and private sector. As the main stakeholders have embraced the idea of TTF, it will be now much easier to undertake the capacity needs assessment.

The capacity needs assessment for the PES TTF was not yet undertaken and will be an activity of the second year of implementation.

Output 2: Assisting RDB in developing a comprehensive revenue sharing policy

This activity will be completed in the second year. RDB have initiated this process through elaborating a Revenue Sharing review framework to realign the objectives and with the current expectations and impact on conservation of the national parks. This process will involve all the three parks.

4. STRATEGY 4: Develop Payments for Ecosystem Services (PES) schemes

WCS has proposed the implementation of a PES approach that provides government and local people with incentives for conserving NNP. Market-driven PES programs are most likely to be sustainable because they depend on the self-interest of the affected parties rather than taxes, tariffs, philanthropy, or the changing priorities of donors. By providing payments on an ongoing basis, PES programs avoid the pattern of short-term adoption followed by rapid abandonment that has characterized past approaches. They can also help reduce poverty because the areas that provide environmental services (and receive payments) correlate highly with areas of rural poverty.

Development of payments for ecosystem services has the potential to create both incentives for people to protect important ecosystem services and contribute to park protection as well as earn direct revenue from the sale of services.

Output 1: Capacity of Rwandans at both the local and national levels to benefit from ecosystem services strengthened

PES is a new concept; therefore there is a need to build capacity of nationals by providing training related to PES. This can only be done after assessing the training needs of stakeholders. Contact with different institutions (REMA, RDB, MININFRA and MINELA) to assess their capacity and gaps in PES was not completed, as it took more time to engage appropriately these institutions in the discussion regarding PES.

Private Sector businesses are one of the key beneficiaries of ecosystem services in and around Nyungwe. There is a need to consider their understanding, needs and participation in PES development during the initial stages, as they will contribute to its success. Subsequently, a workshop to raise awareness with key players in the private sector operating around NNP was held on December and was

attended by 41 people (28 males, 3 females and 3 youth) representing especially the private sector (tea estates around NNP, OCIR Thé, Hotel Managers / owners; and District mayors. An outcome of the workshop was a joint declaration supporting the establishment of PES schemes around NNP- this was aired on different radio stations for public sensitization and to help kick-off the next steps for private sector involvement (see Annexe 8). The workshop also proposed, and action is now being taken so that a forum of private sector representatives should be established to discuss PES implementation mechanisms.

Output 2: Payment mechanisms for ecosystem services established, with an emphasis on watershed services and carbon.

This is not a deliverable for year 1. The development of PES mechanisms is a process and the successes of the first year will be built on.

5. STRATEGY 5: Develop Sustainable Alternatives for Resource Use

WCS views the development of PES markets as key to ensuring the long-term protection of natural resources and biodiversity. However, although these markets will make important contributions, alone they are insufficient to address the growing threats that Nyungwe now faces. WCS planned to identify and introduce sustainable alternatives to natural resource use and contribute to the conservation of this landscape. By employing a range of options, risks associated with a single funding source subject to market vagaries and seasonal fluctuations are reduced.

WCS anticipates funding for development of some of these options through the GEF PAB project. However, approaches proposed to USAID and those with anticipated GEF PAB funding have been described to demonstrate the diversity of possible opportunities:

Output 1: Improved energy efficiency in villages around Nyungwe from introduction of fuel efficient stoves and alternative fuel sources

One of the key threats to the landscape is deforestation based on the demand for fuel wood. While tree planting and woodlots to some extent address the supply side, WCS recognizes the importance of addressing demand. WCS initiated a collaborative partnership with REDO (Rural Environment and Development Organization) to address the problem of fuel wood in the second year of the project by working in collaboration with them to carry out the sensitization and the introduction of modern and efficient cooking stoves. As the project was setting up and defining its working relationships with its partners including REDO, the activities related to improved energy saving alternatives could not be completed in the course of 2010. However the implementation plan developed by REDO is now under discussion and these activities will be carried out in 2011.

Output 2: Creating Incentives for Reducing Illegal Bamboo Harvesting

Given the interest and experience of ECOTRUST, a Uganda-based NGO with extensive experience in small-holder woodlot farming techniques, small-project carbon funding schemes and with expertise in agro-forestry, this activity was outlined for ECOTRUST to complete. Initial meetings were convened with

ECOTRUST to define contract conditions and expected outputs, including a bamboo market-chain analysis. ECOTRUST will play an increasingly prominent role in these activities in Year 2 and beyond.

6. STRATEGY 6: Implement Education and Outreach Program

To address both the immediate threats of unsustainable resource use such as fire and mining as well as the long-term threat of degazettement, WCS has been working with RDB and local education partners to develop an education and outreach strategy for NNP. The strategy is based on an initial assessment of stake-holder opinions, actions and understanding related to the management of NNP and their involvement (or not) in that process. An assessment of communication options is also fundamental, as well as an investigation into literacy and numeracy conditions if effective materials and messages are to be disseminated as a result of these findings.

Two main community audiences are being engaged to define the strategy- the general public and especially those that influence resource use within the park) as well as students in education.

Output 1: Students in formal education (primary and secondary) will adopt a positive/supportive attitude

Based on the past work by WCS for an education program set up with 10 schools in 4 districts surrounding NNP through establishing of conservation clubs, we organised study tours for these clubs to bring the youth closer to the park by visiting several parks attractions, and to measure the level of their awareness as a starting step for the elaboration of the conservation education / outreach strategy.

Similarly, as an education workshop bringing together stakeholders in the formal education was held in Kitabi so as to review and finalise a more rigorous conservation education and outreach strategy. Through this workshop, discussions were particularly made on the threats to NNP, the NNP values, targeted audiences, as well as the knowledge, attitude and behaviour targets.

A consultant was also hired to assist with gathering information on literacy and numeracy education in Rwanda as this was identified as a critical area to be considered within the new strategy. This evaluation helped assess the usefulness of various existing education and outreach materials for both students and wider sections of the communities around NNP (See Annex 11)

Output 2 : Out-of school youth and other vulnerable groups, will gain new skills and an increased understanding of the multiple values of NNP, adopt a positive/supportive attitude to park conservation efforts, and therefore reduce destructive behaviour.

A baseline survey to measure existing levels of knowledge, current attitudes and behavior was planned and implemented by a joint RDB-WCS team in collaboration with 'enumerators' recruited from each of the districts surrounding NNP. The survey targeted two groups in community around Nyungwe National Park a) those that are considered to be 'primary audiences'- directly involved in illegal activities; and b) Influencing groups- who play an important role in the community, and who's involvement could help in reducing threats.

Efforts this year were concentrated on the preparation of the extensive education and outreach survey. The survey was planned to start in March 2011 and to take a month of field work and another month for results analysis. This survey will help to gather baseline information for the preparation of the conservation education and outreach strategy in NNP as well as the development of the education and outreach materials.

B) DISCUSSION OF PROJECT RESULTS

A number of unexpected challenges had to be faced during the first year of implementation, these included the following:

- **RDB re-structuring**

Moreover, a crucial issue that has affected project implementation in various ways has been the restructuring of the Rwandan Development Board (RDB), the government authority vested with managing Nyungwe National Park. The restructuring process has involved drastic changes affecting the conservation mandate, procedures as well as staff with RDB and this in turn has impacted the planning and execution of some activities. Although the RDB staff in NNP did not change, however this restructuring affected the working spirit, especially because every single project activity is dependent on RDB disposition in planning as well as execution.

- **WCS staff turn-over**

In order to be able to implement all the actions under different strategies, WCS started by reinforcing its workforce through recruitment of a number of new staff to fulfil posts that were identified as crucial to the successful implementation of the project. These posts included a Monitoring and Evaluation Manager, a Sustainable Finance Manager, an Administration and Finance Assistant and an Education Officer. A new Director of PCFN (Nyungwe Forest Conservation Project (which is the WCS field project through which all activities are implemented) was also recruited. Not all of these recruitments proved successful, and a further round of recruitment was needed in some cases. This had a certain negative impact on the smooth implementation of the project's activities. Also it is worth to note that that most of the newly hired staff was young graduated, freshly coming out of school benches with little work experience and this took some considerable time and effort to make them confidently run the activities as planned in the Y1.

- **The complexities of establishing multi-partner working groups to lead the development of PES approaches-**

The process to establish PES Working Group revealed to be very long, due to the numerous procedures as well as the complexities of the some cumbersome working procedures of the different concerned institutions. Various approaches were used to inform and educate the partners about the PES and its opportunities and so as to get it among the institutions' priorities; but the delay accumulated in the first instance for this process has impacted on the implementation of the planned activities and deliverables. Meanwhile, the PES working group has finally been established and was termed as PES Technical Task Force, and is now in the process to get the official / governmental recognition; the Ministry of Environment and Lands through REMA has been approached for this purpose. Once the PES working group is officially appointed it will carry out its responsibilities under the Ministry of Environment and Lands. This will guide the WG in their duties and provide the technical expertise legally with the support from the Ministry. Follow up measures have been devised in this endeavour.

- **Under-estimation of conservation education work and limitations of the consultant engaged to review literacy and numeracy issues**

It is worth to mention that it became evident in the course of the project implementation that the amount of preparatory work under this education component was more important than anticipated, and also that the hired education consultant did not deliver as anticipated. This implied that some of the expected output

were not reached in the course of this year and have been shifted in the year 2. These concern for instance the education baseline survey, the draft of education materials yet to be finalised during the second year of the project.

SUCCESS STORIES

Despite the above challenges, many of which have now been addressed, we believe that the achievements of the first year of implementation of this grant have provided a sound platform to move forward towards the achievement of the overriding goal of this project in ensuring that “Rwanda benefits from the conservation of wildlife and sustainable use of ecosystem services in Nyungwe National Park”. The following elements constitute the project success stories that need to be strengthened and to build upon for forthcoming project interventions:

- The current effort to identify park resource users especially the poachers and to convince them to abandon their bad habits is indeed commendable. The formation of ex-poachers associations will be a success story if these associations are effectively sustained and helped to be self reliant to attract a bigger number of the members.
- The same story goes for the ANICO or Community Liaison Agents who play a vital role in creating positive relationship between the park and the neighbouring communities. The ANICO structure needs to be strengthened through increased capacity in the understanding of conservation related issues, and also through providing basic support to enable them to effectively carry out their roles in community.
- Thirdly the creation of a Forum of Private Sector for advancement of PES around NNP is indeed a successful step toward making PES a reality. This is perceived through the “Nyamagabe Declaration” issued on December 1st 2010 and concluding the 1st meeting / workshop of the private sector on PES around NNP. It is important that further steps rapidly envisaged and building on the keen interest that was raised during this event.

We are also confident that the actions that form the basis of the grant agreement will make a significant contribution locally towards USAID’s specific objective of expanding economic opportunities in rural areas as well as improving the management of selected eco-systems. Some of the activities under development that will directly support the above include engagement with various natural resource user-groups, the development of community-based tourism opportunities, the realization of PES funding mechanisms and the revue of benefit sharing amongst communities surrounding Rwanda’s National Parks. Through building the capacity of the recently re-structured RDB, especially in terms of their conservation and park management competencies, we also strive to ensure that Nyungwe is managed ever more effectively.

Nearly all of the activities highlighted in this report in some way or another contribute either directly or indirectly to safe-guarding the biodiversity of Nyungwe National Park, one of Africa’s most highly valued forest areas.

Likewise, through developing a well thought out conservation and education strategy, we also hope to improve the general levels of education and literacy amongst some of the poorest sectors of local society.

One cannot over-look the importance of climate change in our long-term planning for Nyungwe, its biodiversity and surrounding communities and a number of actions reported on here contribute towards improving our understanding on this issue.

C) COMPLEMENTARITY WITH OTHER DEVELOPMENT PROGRAMS

A number of activities supported through this grant are assisting with the realization of golden opportunity for WCS action who have been on-site for 25 years. For example, capacity building for RDB staff and the development of long-term funding approaches for running NNP.

The project has provided a unique opportunity to bring together partners with complementary skills with a shared goal of improving the conservation outlook for Nyungwe in ways that also maximise the involvement and benefit to local communities. This broad-base of support is allowing different partners to reach out to a diverse section of local stake-holders, including civil society in various ways.

Activities funded here also complement other approaches being developed by WCS and other partners, such as:

- PAB, a GEF funded project to which WCS is a partner, has initiated various conservation activities at NNP which directly complement the work proposed by this project. These include the establishment of Pico/Micro-hydro in villages surrounding NNP, rehabilitation of degraded areas and off farm bamboo growing in Nshili area to alleviate pressure on the limited bamboo area in the park, the valuation of the ecosystem services provided by the Nyungwe Forest... This project together, with Partners In Conservation (an offshoot of Columbus Zoo), also support beekeeping development associations working in the vicinity of the park. This program is currently in the final year to run and though the funding is negotiated on an annual basis.
- WCS initiated contact with AKAZI KANOZE to work with and empowering local communities to manage their resources in cooperation with government agencies and to create synergy and complementarity between the two projects. . Dr Michel and Aaron Nicholas of WCS met with Melanie Sany, the chief of party of Akazi Kanoze and discussed areas of synergy and collaboration. It was agreed that WCS will share its education strategy once it is completed and Akazi Kanoze will explore the possibilities of building the capacity of local associations around NNP.
- In partnership with the University of East Anglia, WCS has been implementing a PES pilot project. This is aimed at exploring, in 3 communities bordering NNP, development projects in the sectors related to livestock grazing, bamboo propagation, fuel wood and beekeeping that can be linked to a reduction in direct threats to NNP. WCS with this project through sharing information as well as methodologies for threat monitoring in NNP.
- Trans-boundary collaboration between Nyungwe and Kibira National Parks is another activity that WCS has embarked on with the financial support from the US John D. and Catherine T. MacArthur Foundation. The activities undertaken last year include the rehabilitation of the infrastructure of Kibira NP and the organization of exchange visits between the two institutions in charge of conservation in the two countries. WCS was also involved in Environmental Education program supported by the US Fish and Wildlife Service and focusing on education of school youth on the importance of chimpanzees and their habitat in NNP. In this regards, a number of chimp focused education material were produced and distributed to schools in vicinity of NNP.
- Finally, WCS collaborated closely with the USAID supported “Nyungwe Nziza” project, implemented by Development Alternatives Incorporation (DAI) and aiming at strengthening the sustainable ecotourism in and around Nyungwe National Park. The activities developed under

these two frameworks contribute to responding the Rwandan 'National Economic Development and Poverty Reduction Strategy 2008-2012'

D) TRAINING

In the course of the Y1 of the project, a number of trainings have been organised for both the government institutions (especially RDB) as well as local communities

The following is the table providing details on these trainings as well as on the numbers of participants

Title of training	Objectives	Expected results	Beneficiaries	Number of participants	
				Males	Females
RBM Refresher Training	Equip RDB field staff with basic RBM techniques	Field staff with improved techniques and skills in data collection for threat monitoring use of field equipment and materials for RBM data collection, including GPS, compass, map reading	RDB guards, heads of zones and Monitoring staff	16	0
Advanced GIS training	Equip participants with skills in Remote sensing, Spatial analysis	Participants equipped with the knowledge, skills and attitude necessary for them to use remote sensing and 3-Dimension Analysis as modern tool in the management of wildlife and park using satellite images and aerial photographs, and other material acquired through remote sensing or scanning	RDB and WCS Senior staff	10	0
Workshop on Climate Change	to explain the principal concepts of climate change, and to make it both understandable and relevant in local contexts	Climate change concepts and theories understood as well as the importance for long term climate data collection	Individuals from the principal organizations active in biodiversity conservation in Nyungwe National Park	16	2

			and other protected areas in Rwanda. (WCS, RDB, REMA, NUR, DFGFI/KRC)		
Ex-poachers workshops	to strengthen the relationship between NNP staff and ex-poachers, gather information about current poaching practices, and to disseminate RBM updates.	Ex-poachers identified, and supported to create associations for future training and livelihood support	Expoachers identified from sectors of Kitabi (72) and Muganza (70) and RDB law enforcement staff (5)	66 63	6 7
Study Tour of Resource Users associations in other national parks (VNP and ANP)	to get the different participants exposed to how the local resource users were integrated in the management of Volcanoes and Akagera National Parks	Knowledge in development of ex-poachers associations increased; sensitization on potential livelihood development actions for resource users developed, knowledge in community based tourism improved	Representatives of resource users (ex-poachers, environmental clubs, cooperatives of community based tourism (11)	9	2
PES : Challenges & Opportunities for implementation in Rwanda (organised by WCS)	Initial sensitization of key stakeholders to raise their awareness and initiate discussions on PES implementation framework in Rwanda	Stakeholders sensitized on PES and its implantation framework in Rwanda	Representatives from various institutions interested by PES and including governmental, local & international NGOs...	21	1
PES National Workshop	To raise awareness and definition of collaboration framework	Establishment of PES Technical Task Force and its TORs	Representatives of government institutions, parastatals, private sector...	43	5
PES Private Sector Forum	To raise awareness of key players in the private sector around NNP about PES and its opportunities in business enhancement	Initiate a Forum for private sector operators to implement PES, a declaration of private sector forum to support PES implementation	Representatives of private sector (tea estates around NNP, Hotel Managers around NNP) districts authorities	31	3

Study tours in NNP for school youth	To sensitize youth about the benefits of NNP conservation	Increased knowledge, attitude and behaviour vis a vis the conservation of NNP	School youth and their teachers	172	162
Education Workshop	to review progress on the Education and Outreach Strategy under development; to plan new education and outreach activities in and around Nyungwe National Park	Contributions from participants in the review of values, audiences, knowledge, attitude and behaviour targets	WCS and RDB staff, mixture of education partners at different levels (headmasters, teachers, club leaders, Expert from National Curriculum Development Agency...)	21	5

All these training events were in country held...

E) CROSS-CUTTING ISSUES

• Environmental Compliance

In overall, most of the project activities implemented during the Y1 of the project did not have any direct impact on the environment per se, but on the contrary, have strengthened the capacity to reduce the threats / negative impacts on park biodiversity and to design actions for counteracting those threats and help to reverse the trends.

As far as trainings and workshops were concerned, considerations of environmental sustainability and environmental stewardship were incorporated in the discussions where appropriate and to the extent possible. Trainees have been introduced to these notions and appreciated it.

With regard to the construction of the Cyamudongo patrol post, the construction activities have been conducted in a manner consistent with the good design and implementation practices as per RDB guidelines and approval.

• Gender

Gender is a social construct that refers to relations between and among the sexes, based on their relative roles. It encompasses the economic, political, and socio-cultural attributes, constraints and opportunities associated with being a man or a woman.

The integration of gender is a challenge as there was no gender analysis done per se before the initiation of the program. This would have helped to gather and analyse information on gender differences and social relations to identify and understand the different roles, divisions of labour, resources, constraints, needs, opportunities/capacities and interests of men and women in relation to biodiversity conservation in the context of Nyungwe National Park.

Although, most of the project related activities were dominated by men and this is evidenced by meetings attendance, however the project consistently encouraged the participation of women, for the few who participated especially in meetings and workshops, their views were equally valued as the men's ones.

It is in this regard, that for example the baseline survey for the Outreach strategy was conducted to ensure that the views of an equal number of men and women were captured. Also, the Revenue sharing review process is aimed at addressing possible inequities in benefit sharing and will also consider gender as a factor.

- **Sustainability aspects**

The three main tenets of sustainability are ecological, social and financial sustainability. All three are core to the Project goal; long-term sustainability is, therefore, central to this project which aims to strengthen NNP management capacity and develop the potential of NNP to directly benefit Rwandans, with focus communities adjacent to the park.

Ecological sustainability has been assured with the focus on actions aiming at threats mitigation and monitoring of NNP wildlife and natural systems. Social sustainability has been addressed through engagement of local communities, both through alternative livelihoods, innovations in natural resource use, and the education activities proposed. The project also seeks to make local communities more aware of how they benefit from the forest and in this way they can become protectors of the forest and advocates to government for its protection.

Financial sustainability has been addressed through a suite of PES and market-based mechanisms; by considering a basket of sustainably extracted ecosystem goods and services, the risk associated with reliance on a single funding source subject to the vagaries of market demand, and the fact that revenue streams for different goods and services fluctuate seasonally and inter-annually, is diminished. Alternatively, improved revenue sharing mechanism, boosted by additional income from tourism will also play significant role in ensuring financial as well as social sustainability for NNP conservation.

F) SUMMARY OF YEAR 2 ACTIVITIES

Outputs	Activities	Deliverables	Targets
Strategy I: Strengthening RDB's Biodiversity and Threats Monitoring Capacity			
I.1: Biological Survey capacity of RDB staff is strengthened	Undertake refresher field training course in biological survey techniques and RBM data collection	Training report	By the end of 2011, 30 rangers have received training in RBM data collection techniques
	Undertake follow up field trips to monitor compliance with data collection and entry protocol	Field trip reports and RBM reports	By the end of 2011, RBM data are collected and entered with minimum errors
	Train WCS and RDB senior staff in research/survey design, data management and analysis	Data management system	Data management system in place and preliminary results of biological surveys available
	Design a data management system and put in place a computer lab to centralize data	Training manual	By the of 2011 a RBM data management system is in place
	Develop training manual for Ranger based monitoring		By the end of 2011, RBM training is developed
I.2: The Capacity Park Protection and threat monitoring and assessment for RDB staff is strengthened	Construction of new patrol post at Gahurizo	Patrol post handover report	Patrol post completed and occupied by RDB rangers by July 2011
	Identify and train 8 additional staff for RBM data management (data entry and analysis)	Training report	By the end of 2011, 9 park staffs are trained and able to timely analyse threats monitoring data
	Joint (between departments) quarterly planning of RBM activities (RDB&WCS)	Quarterly work plans and reports	Results from RBM fully used and reflected in quarterly planning activities of different department (Law Enforcement / Park Protection, Community Conservation, etc.)
	Quarterly meetings for joint RBM data analysis and interpretation of the results (RDB&WCS)	RBM report	7 park staff able to timely analyse threats monitoring data
	Avail RBM results to communities and district officials in Joint Action Forum (JAF)	Meeting report	RBM results presented in 2 JAF meetings at the park level
	Evaluate the usefulness of MIST GIS system and RBM results in guiding park management (aimed to establish mechanisms of adaptive management)	Meeting report and recommendations for future use of RBM information/results	Mechanism for using RBM results for adaptive management adopted
	Supply of field equipment (70 sleeping bags, 20 radios and 20 tents)	Inventories updated with new equipment	Park patrols better equipped and effective communication ensured between field patrols
Strategy II: RDB and Districts' capacity to manage conflict, mitigate threats and manage tourism is strengthened			
II.1: Capacity to understand, manage and resolve conflicts is in place	Preparation of training workshop conflict analysis in collaboration with WCS	Workshop agenda, objectives, and participants list	TBD by IISD
	Deliver 2-day training workshop to members of	Workshop report	By the end of the training, 10 participants

Outputs	Activities	Deliverables	Targets
	the RDB and District Officers in conflict analysis, introducing participants to a range of tools such as conflict trees, conflict maps, and stakeholder analysis	(prepared by WCS staff, reviewed by IISD)	commit to using at least one of the tools in their work.
	With WCS staff and partners, conduct a series of community consultations on park-related conflicts	Consultation report	By end of 2011, communities are actively engaged in implementing the conflict resolution strategy
	Compile information on key NNP resource user cooperative	Key NNP resource user cooperatives	
	Organize 1-day follow-up meeting to synthesize results of consultations and develop framework for a Nyungwe conflict resolution strategy	Draft conflict resolution framework for Nyungwe	By end of 2nd quarter, draft conflict resolution strategy prepared.
	Review and feedback on submitted conflict resolution strategy	Final conflict resolution framework for Nyungwe	By October 2011, conflict resolution strategy being implemented by WCS and RDB staff
	Continued, periodic feedback on conflict-related issues (monitoring of strategy implementation, etc.)	Annual report reviewing implementation	By end of Year 2, 3 key lessons identified from the implementation of the conflict resolution strategy
	Organize a workshop on explanation and Diffusion of Compensation law within local authorities and opinion leaders	Workshop reports	At all districts leaders and DEO have participated in the workshops
II.2: Communities participate in conflict mitigation processes.	Capacity (training and equipment) needs assessment for Community liaison agents (ANICO)	Capacity needs assessment report and training material	Training and equipment needs identified for 53 ANICO
	Training workshops for Community Liaison Agents on park conservation values, rapid evaluation of threats, techniques of sensitization, intelligence gathering on potential threat to the park	Training report	53 ANICO have received basic training on park conservation values and threats assessment
	Organize and facilitate a study tour for Community Liaison Agents in NNP	Study tour report	53 ANICO have been involved in study tour in NNP
	Hold meetings with Community Liaison Agents (ANICO) and RDB to develop information sharing system	Meeting report	Information sharing system operational and effective
	Design and Strengthen the structure of ANICO at zone level	Meeting report	ANICO structure is in place and operational at zone levels
	Facilitate the participation of ANICO in joint quarterly planning meetings	Meeting and planning reports	Information gathered by ANICO is used in RBM
	Provide equipments (exercise books, pens, papers, cell phones) to community liaison agents	Equipment handover report	53 ANICO have basic equipment to facilitate their work
II.3: Capacity to manage fire, and monitor mining and resource use impacts are in	Continue the fire management planning process	Fire management plan	By the end of 2011, a draft of participatory fire management is in place
	Training of rangers in fire fighting techniques	Training report on fire	By the end of 2011, 30 rangers have received

Outputs	Activities	Deliverables	Targets
place		fighting techniques	training on fire fighting techniques
	Facilitate outreach meetings with park managers, local authorities and law enforcement organs on fire fighting and prevention	Meeting report	District leaders and law enforcement organs are sensitized and involved in fire prevention and fighting
	Meeting with identified illegal resource users (poachers and honey collectors) on fire prevention and fighting	Meeting report	By the end of 2011 at least 3 meetings held
	Organize and support field visit of local authorities and law enforcement agencies to mining sites in NNP to show the impact of mining on biodiversity	(1) Field visit report (2) meeting report	District leaders and law enforcement agencies are aware of the impact of mining on conservation and involved in fighting and prevention of illegal mining
	Organize and facilitate trans-boundary quarterly joint planning and patrols with Burundian counterparts	(1) RBM report (2) joint planning report	By the end of 2011, 2 joint patrol organized and facilitated
	Hold meetings with District leaders, and law enforcement agencies to assess the current threats and develop a coordinated mitigation strategy	Meeting reports	By the end of 2011, meetings held with each of the 5 Districts surrounding NNP
	Multiply, distribute and sensitize key stakeholders on new wildlife and biodiversity law and policies	A list of people who received wildlife and biodiversity laws and policies documents (February 2012)	Copies and/or extracts of wildlife law and policy produced and disseminated amongst key stake-holders
	Establish, support and monitor key NNP resource users associations	Report on park visit study tour by NNP key resource users (August 2011)	
	Improve ecological conditions in areas that have been affected by wild fires in the past through forest assisted regeneration ;	Report on Assisted Forest Regeneration	At least 3ha of area degraded by past fires restored through assisted forest regeneration
	Produce NNP Vegetation Map	NNP Vegetation Map	NNP Vegetation map produced by Feb 2012
Strategy III: Strengthening the knowledge and interest of the Government of Rwanda to develop and support PES policies			
III.1: The Government of Rwanda has the knowledge and interest in establishing effective PES policies that fully support implementation of PES schemes and ensure that values equitably accrue to both government and communities.	Gather, collate and disseminate information and knowledge on PES in Africa and other developing countries (Baseline on current knowledge on PES)	Compilation of reports and presentation on best management practices and case studies of PES in Africa and other developing countries	Make a presentation on PES in each of the government agencies in charge of environmental management; Stakeholders are aware of the importance of environmental services, how they benefit from them, and how they can participate in the PES program to obtain a continuous supply of environmental services
	Review of the existing environmental policies, identify gaps and opportunities related to PES	Policy review report	Entry point for PES implementation identified by the end of year 2011

Outputs	Activities	Deliverables	Targets
	development and implementation		
	Organize quarterly PES taskforce/working group meetings	Meeting reports	Legal and policy framework for PES implementation established as a result of these consultations, and a well informed and functioning cross agency PES working group with clear mandate and action plan
III.2: RDB has the capacity to develop a comprehensive revenue sharing policy.	Review the current Revenue Sharing (RS) policy and identify gaps, potential areas for improvement and areas of synergies for combining different revenue streams	Recommendations for improving the allocation of RS funds	Effective mechanism for RS in place for project identification and revenues distribution
	Develop criteria for RS projects selection	Guideline for RS projects selection developed	
Strategy IV: Develop (design and implement) a system of payments for ecosystem services (PES)			
IV.1: Payment mechanisms for ecosystem services designed, with an emphasis on watershed services and carbon	Facilitate and support bi-annual private sector forum meetings on PES around Nyungwe NP	Meeting reports and private sector engagement and support to PES	Mechanisms for leveraging private sector interest in PES in place
	Conduct hydrology studies to model the impacts of land use changes on water quality and quantity flowing from Nyungwe	Study reports	The value of Nyungwe watershed services is well understood and communicated to all stakeholders
	Undertake the feasibility study to determine which areas are appropriate for small-holder tree planting as a land use strategy and carbon stock	Feasibility Study Report	TBD Ecotrust
	Assess the feasibility of bamboo planting in woodlots	Feasibility Study Report	TBD Ecotrust
	Initiate pilot tree planting project	TBD	TBD
	Identify an appropriate institution and build its capacity to act as a carbon bank for farmers around Nyungwe	TBD	TBD
IV. 2: Capacity of Rwandans at both the local and national levels to benefit from ecosystem services strengthened	Compile and disseminate information on PES best Management practices to key decision makers and stakeholders	A detailed report on best management practices produced and shared	Updated information on PES shared among key decision makers
	Conduct capacity needs assessment for of key government agencies on PES	Capacity needs assessment report	
	Training workshops on different aspects of PES design and implementation (e.g. carbon accounting and financial analysis)	Training report	Key individuals with the capacity to understand, analyze and assess the sustainability of PES projects
Strategy V: Develop Sustainable Alternatives for Resource Use			

Outputs	Activities	Deliverables	Targets
V.1: Improved energy efficiency in villages around Nyungwe from introduction of fuel efficient stoves and alternative fuel sources	Assess options for manufacture/acquisition of efficient cooking stoves and their distribution in communities around Nyungwe	Assessment report	TBD REDO (# of households with efficient cooking stoves)
V.2: Creating incentives for reducing illegal bamboo harvesting	Identify/assess local needs in bamboo / review on bamboo market chain analysis and on farm growing in bamboo prone conflict areas	Local needs assessment report	Develop an effective mechanism for the planting and harvesting of bamboo from woodlots on a sustainable basis as a way to increase income and reduce pressure on the PA
	Select appropriate species that best satisfy local needs	Appropriate species identified	
	Assess potential environmental impact of using selected species	Environmental assessment report	
	In collaboration with farmers and district leaders identify areas that are suitable for bamboo planting	Areas for bamboo plantations are identified	
	Work with Rwanda Bamboo Society (RBS) to facilitate access to seedlings	Bamboo seedlings are made available to farmers	
	Develop contracts with farmers to initiate plantations of bamboo	Contracts to initiate pilot bamboo plantations	
Strategy VI: Implement Education and Outreach Programs			
VI.1: Students in formal education (primary and secondary) will adopt a positive/supportive attitude to park conservation efforts based on a clear understanding of the multiple values of NNP, reduce the adoption of unsustainable behaviors as they grow into adults, and act as advocates for the value of the Park and its conservation	Conduct and analyze baseline survey to measure existing levels of knowledge and current attitudes and behaviors for school students.	Baseline survey results and report (April 2011)	By the end of 2011, The baseline is conducted in ten schools (2 schools/district)
	Use survey results to finalize education and outreach strategy and develop formal education work-plan (which defines materials and activities)	Outreach strategy and formal education work plan report	Outreach strategy and work-plan on formal education developed and produced by May 2011
	Design and produce conservation education materials and activities for use in formal education, including pilot testing with sample groups of teachers and school students (October 2011)	Conservation education/outreach materials	Education materials available and tested in 10 schools have received environmental education material
	Hold teacher training workshop to train teachers in use of materials and activities and distribute materials to schools (December 2011)	Workshop report and distribution of materials (December 2011)	20 teachers and 6 park staff are trained in use of education materials
	Monitor and support initial use of education materials in schools (Feb 2012)	Report on use of education materials in schools (February 2012)	By the end of 2011, the education material is efficiently used in ten schools
VI. 2 : Out-of school youth and other vulnerable groups,	Conduct and analyze baseline survey to measure existing levels of knowledge and	Baseline survey report (April 2011)	The existing levels of knowledge and current attitudes for out of school youth and other

Outputs	Activities	Deliverables	Targets
specifically those groups responsible for the threats of unsustainable resource use, fire and mining (e.g. hunters, beekeepers, bamboo cutters, and miners) will adopt a positive/supportive attitude to park conservation efforts and change their behavior accordingly based on an understanding of the multiple values of NNP	current attitudes, and collect baseline data on behaviors (from other sources), for out-of-school youth and other vulnerable populations		vulnerable populations is known in 5 districts around NNP
	Use survey results to finalize education and outreach strategy and develop work-plan for out-of-school youth and other vulnerable populations (which defines materials and activities)	NNP conservation education and literacy/numeracy programs work-plan and strategy (May 2011)	Work plan and education strategy based on survey results developed and in use
	Design and create integrated conservation and literacy/numeracy materials and activities for use in literacy/numeracy programs	Social marketing tools designed and produced for NNP communities (September 2011)	By the end of 2011 The literacy/numeracy teaching materials are available and in use
	Hold training of trainers and provide materials of literacy/numeracy programs (November 2011)	Training report	By end 2011, thirteen(13) literacy/numeracy trainers are trained in use of material
	Initiate new literacy/numeracy training and support existing programs (February 2012)	Literacy/numeracy sites	200 literacy/numeracy trainees enrolled to training on literacy/numeracy
	Design and produce conservation education and outreach (social marketing) materials and activities for communities near NNP (February 2012)	Literacy/numeracy materials and activities, for out-of-school youth and other vulnerable populations, designed and produced (September 2011)	Appropriate literacy/numeracy materials are available
	Implement conservation education and outreach (social marketing) programs for communities near NNP (February 2012)	Reports of conservation education activities	Social marketing tools are distributed and used in literacy/numeracy training sites